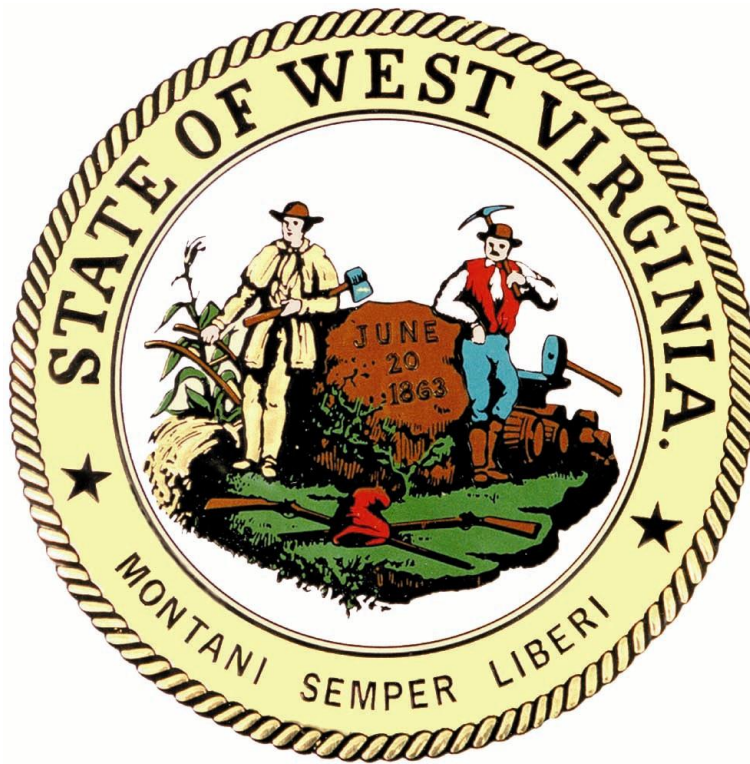


## Environmental Enforcement



# WEST VIRGINIA NPDES REPORTING REFERENCE MANUAL

REVISED February 2014

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## INTRODUCTION

Compliance Monitoring personnel of the Department of Environmental Protection have noted that a number of NPDES facilities have misunderstood several permit requirements. It is hoped that this manual will provide information to the permit holders and plant operators in order to clarify common misconceptions and errors. Included are instructions providing assistance in the completion of the WV/NPDES Discharge Monitoring Reports (DMR) required by your WV/NPDES permit.

**THIS MANUAL IS NOT A SUBSTITUTE FOR HAVING A THOROUGH KNOWLEDGE OF ALL THE REQUIREMENTS OF YOUR NPDES PERMIT. YOU MUST THOROUGHLY READ YOUR PERMIT AND ADHERE TO ALL REQUIREMENTS. IT IS THE PERMITTEE'S RESPONSIBILITY TO ENSURE DMR'S ARE PROPERLY COMPLETED AND RECORDS MAINTAINED, AND THAT ALL PERMIT REQUIREMENTS ARE UPHELD.**

It is the permit holder's legal responsibility to provide accurate monitoring information and maintain records as required. Failure to uphold this responsibility is subject, but not limited, to the following liabilities, as noted in Section C.14 (or Appendix AI.14 in newer permits) of all WV/NPDES permits:

- a) Any person who violates a permit condition implementing sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing sections 301, 302, 306, 307, 308 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than 1 year, or both.
- b) Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- c) Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- d) Nothing in C.14 (or Appendix A.I.14) a), b) and c) shall be construed to limit or prohibit any other authority the Director may have under the State Water Pollution Control Act, Chapter 22, Article 11.

## **INSTRUCTIONS FOR COMPLETING WEST VIRGINIA NPDES DISCHARGE MONITORING REPORT (DMR) FORMS**

### GENERAL INSTRUCTIONS

1. The West Virginia Department of Environmental Protection (DEP) is moving to require all permittees to submit their NPDES Discharge Monitoring Reports (DMRs) using an electronic DMR (eDMR). The eDMR is a web-based application that permitted facilities may use to electronically enter, sign and then submit their DMRs to the DEP. The use of the eDMR system offers an alternative for records submittal and retention. More information can be found on DEP's website at: <https://apps.dep.wv.gov/eplogin.cfm>.
2. DMRs must be completed for each month, or less frequently in accordance with your permit, on each discharge that has specific effluent limitations or monitoring requirements. If during this month, an outlet (such as cooling tower blow down) has not discharged **AT ALL ON ANY DAY**, then this information should be submitted on the appropriate DMR. Write "No discharge" across the front of the DMR. When submitting electronically, "No Flow" is selected from the appropriate drop down box on the eDMR. You cannot claim "No Discharge" or "No Flow" if there was any discharge at any time during the reporting period. (Example: If you looked at an outlet 10 different times over the reporting period and there was nothing discharging during those times, but there is evidence that the outlet did discharge while not present, you must account for the entire period, observed or not.) For storm water only discharges, whether or not someone at the facility is physically present at the site to get the sample does not matter. (Example: If there was at least 0.1 inches of rain during a six month period and discharged [whether you were there to get the sample or not], you cannot claim "No Discharge" on your DMR, because it did discharge and meet the requirements for obtaining a sample.) Also, please note that permits require that the facility should take samples within the first 30 minutes, or as soon thereafter as practicable. (Example: A facility cannot claim "No Discharge" if 45 minutes has already passed when someone gets there to take a sample and the discharge is occurring. A sample may be taken at that time if a discharge is present.)
3. DMRs must be submitted no later than the 20th day following the end of the reporting period, unless otherwise stated in your permit.
4. Data must be collected in accordance with permit conditions. Carefully read and follow requirements of the permit that specifically address Monitoring and Reporting. Many permits, especially individual permits, contain specific laboratory methods and additional sampling that is not contained in Section A of the WV/NPDES Permit. Note that deficiencies in regard to this section of the permit account for many unsatisfactory ratings given during our inspections.
5. The maximum daily concentration on the reporting forms refers to the highest allowable "daily discharge" concentration reported for the month.

6. The average monthly discharge limitation means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
7. For permits (POTWs) which have seven (7) consecutive day average limits, the arithmetic average may be reported as average for the first 7-day periods (1st to 7th of the month, 8th to 14th, 15th to 21st, and 22nd to 28th). Some permits may have 7 consecutive day average limitations as a permit condition, but no reporting requirements. Nevertheless, records should be kept of 7-day averages and excursions reported to the permitting agency within five (5) days. A violation by the permittee (POTW) of this 7-day average or for any other stipulated permit condition shall be considered an excursion.
8. Instantaneous maximum limitation means the highest allowable concentration of pollutant in the discharge at any given time. Determination of this concentration may be based on a grab sample analysis.
9. Semi-annual and annual monitoring periods are determined based on the effective date of the permit. The effective date of the permit can be found on the cover page along with the facility's description. For example, a permit issued April 1<sup>st</sup>, 2010 will have an effective date of May 1<sup>st</sup>, 2010. The semi-annual monitoring periods would be May 1 – Oct 31 and Nov 1 – Apr 30. Annual monitoring periods would be May 1 – Apr 30.
10. Quarterly monitoring periods require a result for the appropriate parameters to be submitted during the following timeframes regardless of the date when the permit was issued, Jan 1 – Mar 31, Apr 1 – Jun 30, Jul 1 – Sep 30, Oct 1 – Dec 31.
11. Care should be taken when multiple samples are taken during a reporting period that is longer than a month (annual, semi-annual, quarterly, etc.). These reporting periods may require a monthly average result. Remember that an average monthly result is an average over a calendar month. Only samples taken in the same month may be averaged together for an average monthly result. For example, in a quarterly reporting period, even though the permit may only require sampling once per quarter, a facility might collect 2 samples in January, 3 samples in February, and 1 sample in March. They are not to average all of these results together and report that value as the monthly average. They would have 3 separate monthly average results for the quarter in this case (1 calendar month average for January, 1 calendar month average for February, 1 calendar month average for March). They would have to report the highest of these three separate monthly average results on the DMR for the monthly average for that quarter.
12. If additional samples are taken over the permit minimum, all results using EPA (40 CFR Part 136) approved methods must be included in the calculations for the report.
13. Fecal Coliform averaging must always be calculated using a geometric mean and not an arithmetic average.
14. Convert all concentrations reported in ug/l to mg/l before using the formula to calculate loadings.

15. To calculate loadings, use the flow on the date that the sample was taken. Never use the average monthly flow to calculate the average monthly loading.
16. An exceedance is a violation of permitted effluent limits. The Number of Exceedances (N.E.) is to be listed on the DMR. Even though only one value is reported on the DMR, every time a sample result violates a permit limit, an exceedance is counted and included on the DMR. Certain individual permits grant allowances for Fecal Coliform exceedances. The details and instructions for such allowances can be found in Section C of the WV/NPDES permit.
17. Round results to same significant figures as your permit limits.
18. The DMR must be signed by the “Responsible Official” unless a letter is sent to Division of Water and Waste Management designating another person as the “Authorized Agent”.
19. Printed DMR forms are not supplied by the State for each reporting period. Therefore, copy sufficient quantities of the DMR form attached to the permit for five years of reporting if needed.
20. Major facilities are required to submit a copy of their DMR's to EPA Region III.
21. Your permit may have winter and summer limitations. Your permit and/or administrative order may also have interim and final limitations. If your permit has such limitations, the corresponding DMR should be used. DMR changes often occur when permits are reissued and/or modified. Reading your permit carefully can help avoid numerous mistakes.
22. Attach additional permit requested information directly to your DMR according to permit requirements, as all permit requirements are not necessarily indicated on the DMR. These include, but are not limited to, CSO information, I/I reports, Industrial storm water data, Bioassay reports. Report this information as required in the permit.
23. Some records are required to be kept by the permittee but are not routinely required to be submitted with the DMR. These include, but are not limited to Chain of Custody forms and calibration records for flow meters and laboratory meters (pH, Dissolved Oxygen, Total Residual Chlorine, etc.). Below is an example of one way to check the accuracy of a flow meter's totalizer:

## **Flow Measurement Check**

If a staff gauge is installed, make sure it is accurate, level, and located in the proper place.

At totalizer, start timing when the number changes.

Write totalizer reading down.

Immediately record the staff gauge reading.

Record the staff gauge reading around every 30 seconds.

Read staff gauge for 10 – 15 minutes.

After the time is up, wait until the totalizer clicks over to a new number.

When the totalizer clicks over, record the staff reading, record the totalizer reading, and note the time elapsed.

Reference the ISCO Flow Book to get GPM results for all staff readings.

Add the readings together and divide by the total number of readings to get average.

Multiply this by the number of minutes elapsed.

Compare this to the totalizer flow for the elapsed time period. Consider the calibration of the totalizer satisfactory if the two flows are within 10 percent of each other, when the actual measure flow (staff gauge average) is used as the known value, or divisor, in the percent calculation.

SPECIFIC INSTRUCTIONS

1. Make copy of blank DMR (example included), which is attached to your WV/NPDES permit. Ensure this is your proper DMR (Interim, Final, Summer, Winter, etc.)
2. Fill in month and year at the top left-hand corner of the form and complete the certified laboratory name, address, and individual(s) performing analyses.
3. Reporting Values: You should use space provided for reporting values for each parameter on the DMR.

Fecal Coliform averaging must always be calculated using a geometric mean and not an arithmetic average. See "Specific Instructions" number six (6).

$$\text{Arithmetic Mean (Average)} = \frac{N1 + N2 + N3 + N_{th}}{th}$$

Example for arithmetic calculations/reporting.

	<u>Measured Values</u>
1 <sup>st</sup> week	19, 29
2 <sup>nd</sup> week	34, 28
3 <sup>rd</sup> week	40, 26
4 <sup>th</sup> week	26, 20

Average Monthly or 30 Consecutive Day Average

$$\frac{19 + 29 + 34 + 28 + 40 + 26 + 26 + 20}{8} = \frac{222}{8} = 27.75$$

$$\text{Maximum Daily} = 40$$

The reporting form would be completed as follows:

	<u>Minimum*</u>	<u>Average Monthly</u>	<u>Maximum Daily</u>
Reported	19	27.75	40

\* Only if required by the permit.

Example for seven (7) Consecutive Day Averages

	<u>Measured Values</u>	<u>7-Day Averages</u>
1 <sup>st</sup> week	19, 29	24
2 <sup>nd</sup> week	34, 28	31
3 <sup>rd</sup> week	34, 28	33
4 <sup>th</sup> week	26, 20	23

Should your permit require reporting a 7-day average, you should pick the maximum 7-day average to report. The 7-day average for this example would be 33.



4. Calculating loadings (DMR “Quantity”) in pounds per day (Lbs/Day)

Data Needed: Pollutant concentration in mg/l (Care should be taken to convert any data reported in ug/l to mg/l before beginning the calculation)

Flow for the sample period in MGD

Calculation:  $\text{Lbs/Day} = \text{mg/l} \times \text{MGD} \times 8.34 \text{ Lbs/Gallon}$  (Weight of gallon of water)

Since the loading is expressed in unit mass per day, the flow rate should be representative of the 24-hour day in which the sample(s) were taken. Accurate 24-hour totalizer readings are the ideal source of this information. If flow recordings or totalizer is not available, instantaneous flow rate measurements made at the time samples were taken may be used to calculate an average flow rate for the sample period. **In all cases, the flow measurement period must bracket the sampling period.** An instantaneous flow cannot be used for calculating loadings for a composite sample. It should be noted, that all composites must be on a flow proportioned basis (see pages 15 and 16 for some recommended procedures).

Calculate the loading using the above formula for each day during the month the samples were taken. Select the highest daily calculated value for each parameter and record this on the DMR for the daily maximum value. Next, determine the arithmetic average of all daily loadings for each parameter during the month and record this on the DMR for the average monthly value.

Basically stated, use a flow that brackets the sampling period along with the sample results to calculate daily loading values. Then average the daily loadings to arrive at the monthly average. Never use the maximum daily flow for the month to calculate the maximum daily loading (unless the flow occurred on the sampling day). **Never use the monthly average flow to calculate the average monthly loadings.**

Example

1<sup>st</sup> Sample:  $2.0 \text{ MGD} \times 20 \text{ mg/l} \times 8.34 = 333.6 \text{ Lbs/Day}$

2<sup>nd</sup> Sample:  $1.5 \text{ MGD} \times 18 \text{ mg/l} \times 8.34 = 225.2 \text{ Lbs/Day}$

3<sup>rd</sup> Sample:  $2.1 \text{ MGD} \times 13 \text{ mg/l} \times 8.34 = 227.7 \text{ Lbs/Day}$

4<sup>th</sup> Sample:  $1.8 \text{ MGD} \times 10 \text{ mg/l} \times 8.34 = 150.1 \text{ Lbs/Day}$

$$\frac{333.6 + 225.2 + 227.7 + 150.1}{4} = \frac{936.1}{4} = 234.2$$

Daily maximum loading = 333.6 Lbs/Day

Average monthly loading = 234.2 Lbs/Day

## Calculation Procedures for Reporting Monthly Averages When <MDL Values Are Considered.

### Case 1

When averaging values of analytical results *for DMR reporting purposes*, the permittee *should* use actual analytical results when these results are greater than or equal to the MDL and *should use zero (0)* when these results are less than the MDL.

#### *Example (Concentration):*

Three tests yield the following results for TKN. (<1 mg/l, 20 mg/l, 75 mg/l).

$0 \text{ mg/l} + 20 \text{ mg/l} + 75 \text{ mg/l} = 95 \text{ mg/l}$ ,  $95 \text{ mg/l} / 3 = 32 \text{ mg/l}$

The permittee would report 32 mg/l for their average monthly DMR result.

#### *Example (Mass):*

Three tests yield the following results for TKN. (<3.8 lbs/day, 100 lbs/day, 312 lbs/day).

$0 \text{ lbs/day} + 100 \text{ lbs/day} + 312 \text{ lbs/day} = 412 \text{ lbs/day}$ ,  $412 \text{ lbs/day} / 3 = 137 \text{ lbs/day}$

The permittee would report 137 lbs/day for their average monthly DMR result.

### Case 2

If all analytical results are non-detect at the MDL (<MDL), then the permittee should use the actual MDL in the calculation for averaging and report the result as less than the average calculation.

#### *Example (Concentration):*

+Three tests yield the following results for TKN. (<1 mg/l, <1 mg/l, <1 mg/l).

$1 \text{ mg/l} + 1 \text{ mg/l} + 1 \text{ mg/l} = 3 \text{ mg/l}$ ,  $3 \text{ mg/l} / 3 = <1 \text{ mg/l}$

The permittee would report <1 mg/l for their average monthly DMR result.

#### *Example (Mass):*

Three tests yield the following results for TKN. (<3.8 lbs/day, <5 lbs/day, <4.2 lbs/day).

$3.8 \text{ lbs/day} + 5 \text{ lbs/day} + 4.2 \text{ lbs/day} = 13 \text{ lbs/day}$ ,  $13 \text{ lbs/day} / 3 = <4.3 \text{ lbs/day}$

The permittee would report <4.3 lbs/day for their average monthly DMR result.

5. Total Nitrogen: The Division recognizes there is not an EPA approved method to directly test for Total Nitrogen. The Total Nitrogen value to be reported on the permittee's DMRs shall be the sum of the following parameters; Total Kjeldahl Nitrogen, Nitrate and Nitrite.

### Case 1

If all three constituents of Total Nitrogen are not detected at their method detection limit (MDL), the permittee shall add the actual MDLs for each constituent and report the result as less than the calculation.

### Case 2

When calculating the sum of the constituents for Total Nitrogen, the permittee shall use actual analytical results when these results are greater than or equal to the MDL for a particular constituent and should use zero (0) for a constituent if one or two of the constituents are less than the MDL.

Some permittees also have to report the total monthly mass results (Lbs./Day) for total nitrogen and total phosphorous on their DMR. The method to calculate this result is slightly different from other mass requirements. The total monthly flow (not the average) shall be used in conjunction with the average monthly total nitrogen and total phosphorous concentration results in order to determine the total monthly mass results for reporting purposes.

6. Fecal Coliform: Fecal Coliform averaging must always be calculated using a geometric mean and not an arithmetic average. From all sample results during the month, select the highest daily value and record this as the daily maximum. Do not record "too numerous to count" (TNTC). This is not a valid result and when it occurs additional samples should be run with adequate dilutions. In the event a laboratory reports TNTC, do not record this on the DMR, but contact the laboratory to obtain a valid numerical result.

If more than one Fecal Coliform result is obtained during a reporting period, a geometric mean of those results must be reported. The geometric mean may be calculated either by the root extraction method or by use of logarithmic tables. An example of each is given below.

$$\text{Root extraction} = \sqrt[n]{N1 \times N2 \times N3 \times \dots \times Nth} = \text{Geometric mean (GM)}$$

A scientific calculator is very handy for this. Check your calculator's instructions on how to do this. This will probably involve the " $\sqrt[x]{y}$ " key or the " $y^x$ " key and an inverse or " $2^{nd}$ " key.

Given Fecal Coliform test results, once per week sampling:

1 <sup>st</sup> week	20	Col/100 ml
2 <sup>nd</sup> week	50	Col/100 ml
3 <sup>rd</sup> week	30	Col/100 ml
4 <sup>th</sup> week	800	Col/100 ml

$$GM = \sqrt[n]{N1 \times N2 \times Nth}$$

$$GM = \sqrt[4]{20 \times 50 \times 30 \times 800}$$

$$GM = \sqrt[4]{24,000,000}$$

$$GM = 70 \text{ Col/100 ml}$$

## Logarithmic Method

How to use logarithm (or logs) and find the geometric mean (GM) of n Fecal Coliform measurements, where the analytical results (n) is greater than or equal to one.

Let the first Fecal Coliform measurement = N1

Let the second Fecal Coliform measurement = N2

Etc.

Let the last Fecal Coliform measurement = Nn

Let n equal the total number of such Fecal Coliform measurements or sample size. The formula for the GM when using logs is:

$$\text{GM (of } N_1, N_2, \text{ etc., } N_n) = \text{Anti-log } \frac{\log N_1 + \log N_2 + \dots + \log N_n}{N}$$

In order to complete the calculations on the right-hand side of the equation, four operations are necessary.

- A. Determine the log for each of the n Fecal Coliform measurements
- B. Add or sum the log values
- C. Divide the sum by sample size (n)
- D. Find the anti-log of the answer to step C

An example of the calculations is as follows:

$$\text{GM of 159 and 120} = \text{Anti-log } \frac{(\log 159 + \log 120)}{2}$$

$$\text{GM} = \text{Anti-log } \frac{(2.20140 + 2.07918)}{2}$$

$$\text{GM} = \text{Anti-log } 2.14029$$

$$\text{GM} = 138$$

Some checks for gross errors:

- GM lies between the largest and smallest value. For the problem above, the GM of 159 and 120 = 138. Since 138 lies between these two, there is no gross error.
- GM is less than the Arithmetic mean (AM). This is true unless all of the Fecal Coliform counts are equal, then GM = AM.

$$\text{AM (of 159 and 120)} = \frac{159 + 120}{2} = 140$$

Since the GM of 138 is less than the AM of 140, there is no gross error.

NOTE: Some pointers to keep in mind when calculating the geometric mean for Fecal Coliform when values are "greater than" or "less than".

- Do not carry "greater than" or "less than" signs through the geometric mean calculation.
  - Use the numerical value attached to the sign in the calculation, e.g. <5 becomes 5 (not 0, 1, or 2.5).
  - Greater than values should be flagged on the DMR and an explanation provided. The explanation should provide details on the analysis, such as dilutions used, actual counts obtained, and plans to keep the problem from occurring in the future.
  - Use "greater than" and "less than" signs on the maximum daily values reported on the DMR.
  - Use "greater than" and "less than" signs on all other averages (arithmetic means) on the DMR except for Fecal Coliform.
7. "N.E." (i.e., number exceeding) Under this heading, the number of excursions for each parameter should be listed. An excursion is a result that exceeded permit limits. This includes excursions of maximum, minimum and/or average permit limits.
8. "Measurement Frequency" boxes should represent the frequency of sampling and analysis for the reporting period. If you are sampling less or more frequently than required, be sure to note the actual frequency.
9. "Sample Type" boxes should reflect the actual type of sample being collected for that reporting period. Specify "grab", "8 HC" for 8 hour composite, "24 HC" for 24 hour composite or "Batch" for Sequential Batch Reactors (SBR).
10. Percent removal of BOD-5 and TSS may be calculated in the following manner:

$$\% \text{ Removal} = \frac{\text{Concentration In (30 Day Avg.)} - \text{Concentration Out (30 Day Avg.)}}{\text{Concentration In (30Day Avg.)}} \times 100$$

Although every permit may not require reporting of this percentage, a record may need to be kept to satisfy the permit requirement listed under "other requirements" which requires that the arithmetic means of effluent values not exceed 15 percent of arithmetic means of influent values. However, as permits are reissued, reporting of percent removal will be required. Concentration In is defined as the 30-day average values of the raw wastewater influent pollutant concentration to the facility. Concentration Out is defined as the 30-day average values of the effluent pollutant concentrations. **Note that only influent and effluent samples taken concurrently shall be used for reporting. There may be additional requirements, especially for wet weather/ dry weather events contained in the permit.**

11. The reporting of "ND" as "none detected" for a parameter is not a legitimate means of reporting. The proper way to report a value when it is below the detection limit is to report the result as less than (<) the method detection limit for that particular parameter. For example, if the method detection limit for TKN were 1 mg/l, the proper reporting for TKN would be <1 mg/l when the result is below detection limits. This "less than" concentration should also be carried through while doing loading calculations, so the final loadings should read accordingly.

Example: 5 MGD x <5 mg/l x 8.34 = <208.5 Lbs/Day

It should be noted that from time to time a permittee will report "ND" for "not determined" (not analyzed). In this case, the explanation of the "ND" should be footnoted at the bottom of the particular page where it is listed.

There are permits that allow Net Limits to be reported. These results are calculated by subtracting an Intake sample result from an Effluent sample result. In these cases, if the Intake sample result is larger or the same as the Effluent sample result, "zero" is reported on the DMR. If both results are less than the minimum detection limits (<MDL), then subtract one from the other and report "zero". If the Intake is <MDL and the Effluent is a valid result (For example: Intake = <5 mg/l, Effluent = 6 mg/l), Report the Effluent result as less than the result (In this example, Effluent is reported as <6 mg/l). There is no written EPA policy on this matter, so until something concrete is created, this will suffice as a guidance. This calculation is less likely to result as a violation on the QNCR list as other calculation methods.

12. Compliance Evaluation Levels (CEL)

CEL can be defined as the minimum level (ML). The ML is the level at which the entire analytical system gives recognizable signal and acceptable calibration point. This level corresponds to the lowest point at which the calibration curve is determined based on analyses for the pollutant of concern in reagent water. The ML, which is not equivalent to the MDL, is determined from the analysis of a sample in a given matrix containing the analyte. At this time, the CEL is an interim limit and may be revised when the EPA finalizes their "National Guidance for the Permitting, Monitoring, and Enforcement of WQBEL Set Below Analytical Detection/Quantification Levels." For DMR reporting purposes, if a result is above the permit limits but below the CEL, the result will be considered in compliance and no excursion will be reported in the N.E. column.

13. Toxicity Reporting

Some WV/NPDES permits require toxicity (bioassay) testing and subsequent reporting. The reporting for these tests are recorded in toxic units (TU) or more specifically as TUa or TUC as defined below.

- A. Toxic Units (TU) are a measure of toxicity in an effluent as determined by the acute toxicity or chronic toxicity units measured.
- B. Toxic Unit acute (TUa) is the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end of the acute exposure period (48 hrs.).

$$TUa = 100 \div LC_{50}$$

- C. Toxic Unit chronic (TUC) is the reciprocal of the effluent concentration that causes no observable effect on the test organism by the end of the chronic exposure period (up to 7 days or longer).

$$TUC = 100 \div NOEC \text{ (No Observable Effect Concentration)}$$

The number of toxic units in an effluent is defined as 100 divided by the  $EC_{50}$  (Effective Concentration) or  $LC_{50}$  (Lethal Concentration) measured:

For example, an effluent with an acute toxicity of an  $LC_{50}$  in 5 percent effluent is an effluent containing 20 TUa.

- 14. Complete the bottom of the DMR with the typed or printed name of the principal Executive Officer, title and date of completion. Affix the authorized signature, then mail to the address given in the permit.
- 15. An example of a detailed, step-by-step process for completing a DMR for a typical sewage treatment plant may be referenced beginning on page 18. If you have any questions regarding records or DMR calculations, call the Department of Environmental Protection's Compliance Monitoring personnel at (304) 757-1693.

## Flow Proportioning

Composite sample is defined as a combination of individual samples obtained at regular intervals over a time period; either the volume of each individual sample is proportional to flow rates or the sampling interval. **In order to meet the definition of composite sample, flow proportioning must be used. Guidelines set by EPA state that flow proportional samples must be obtained if the flow varies more than 10% from the average flow rate during the sampling interval.**

From the definition of composite sample two methods of flow proportioning are acceptable – constant sample intervals with sample volume proportioned to flow, or constant sample volume with the sample interval proportioned to flow. Generally, the latter method is used only with automatic composite samplers that are integrated with a flow meter. Following are three examples of how to flow proportion. The first uses an average flow rate for the facility, the second uses a totalizer based method for calculating the flow rate, and the third uses a flow measurement as a percent of maximum.

First Example:

- a) Determine the number of samples to be taken in the composite period.
- b) Determine the minimum sample volume needed.
- c) Determine the average sample volume by dividing the minimum volume by the number of samples.
- d) Determine the average dry weather flow for your facility.
- e) Divide the average sample volume by the dry weather flow to determine the multiplier factor.
- f) When sampling, multiply the instantaneous flow value by the multiplier factor to determine the sample volume.  
(You may also develop a table of flows and sample volumes to simplify things on sampling day.)

- Example:
- a) Eight hour composite with eight individual samples.
  - b) Minimum sample volume needed is 3200 ml.
  - c)  $3200 / 8 \text{ samples} = 400 \text{ ml/sample}$ .
  - d) Average dry weather flow at the plant is 800,000 GPD.
  - e)  $400 \text{ ml}/0.8 \text{ MGD} = 500 \text{ ml/MGD}$ .
  - f) Sampling day flow at 9:00 AM is 0.9 MGD

$$0.9 \text{ MGD} \times 500 \text{ ml/MGD} = 450 \text{ ml for the 9:00 AM sample}$$



Second Example:

If the metered flow rate fluctuates with pump operation, an instantaneous flow reading may not be representative for flow proportioning. This is especially true when the flow meter is placed on a pump dependent influent line and the effluent remains steady. In these cases, the aforementioned method would not be representative of the monitored activity. The permittee may have to utilize a different method to flow proportion the composite sample. If this is suspected, a totalizer based method for calculating flow rate may be used. By recording totalizer volumes at sampling intervals, an average flow rate can be generated which will level out the characteristic spikes and dips generated by pump cycling. An inherent problem with this method is that a totalizer reading is needed before or after sample collection begins. Below is an example of this method:

Example:

- a. Determine the sample interval (typically: 1 sampler per hour).
- b. Record totalizer volume when monitored period begins (i.e. 7:00).
- c. Record totalizer volume at time of sample collection.
- d. Subtract the previous totalizer reading from current totalizer reading, the difference is the interval volume.
- e. Convert the interval volume into a usable flow rate (Interval volume / Interval time).
- f. Use the calculated flow rate to flow proportion your sample as described in previous examples of this section.
- g. Repeat steps C. through F. until sampling is complete. Maintain these records with sampling documentation.

**Totalizer Based Flow Reading for Composite Sampling**

Sample #	Time	Totalizer Reading (Gallons)	Previous Totalizer Reading (Gallons)	Interval Volume (Gallons)	Flow Rate (MGD*)
	0700	56894625			
1	0800	56928357	56894625	33732	0.81
2	0900	56958691	56928357	30334	0.73
3	1000	56994718	56958691	36027	0.86
4	1100	57032705	56994718	37987	0.91
5	1200	57070204	57032705	37499	0.90
6	1300	57103796	57070204	33592	0.81
7	1400	57137858	57103796	34062	0.82
8	1500	57166037	57137858	28179	0.68

\*In this example, interval volume was multiplied by 0.000024 to convert to MGD. (1 hour interval volume in gallons \* 24 hours / 1,000,000 gallons)

Third Example:

Manual Compositing Method  
(Flow Recorded as % of Maximum)

Bottle Number	Sample Collection Time	% Flow	Sample Size, ml/l (% Flow x 11.3)
1	0800	39	441
2	0900	42	475
3	1000	48	542
4	1100	33	373
5	1200	28	316
6	1300	20	226
7	1400	22	249
8	1500	27	305
9	1600	33	373
10	1700	42	475
11	1800	33	373
12	1900	30	339
13	2000	40	452
14	2100	38	429
15	2200	30	339
16	2300	20	226
17	2400	14	158
18	0100	14	158
19	0200	8	90
20	0300	25	271
21	0400	40	452
22	0500	30	339
23	0600	20	226
24	0700	33	373
<b>Total</b>		<b>709</b>	<b>8000</b>

$$\text{Avg. Daily Flow} = \frac{\text{Sum of \% Flow}}{24 \text{ Hours}} = \frac{709}{24} = 29.5\% \text{ Avg. Flow of } 1.014 \text{ Max. Flow}$$

Approximate Total Sample Required (ml) = 8000

$$\frac{\text{Sample Required}}{\text{Sum of \% Flows}} = \text{Factor} = \frac{8000}{709} = 11.3$$

$$\text{Factor} \times \text{Hourly \% Flow} = \text{Hourly Sample Size}$$

A format for a flow proportioning sample sheet is below.

### FLOW PROPORTIONED SAMPLING LOG

Sampler: \_\_\_\_\_ 24 Hour Flow: \_\_\_\_\_

Sample Refrigeration Temperature: \_\_\_\_\_

Adjusted: YES NO

Composite Sample

Parameters: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Location: \_\_\_\_\_

Grab Sample

Parameters: \_\_\_\_\_

Time: \_\_\_\_\_

Date: \_\_\_\_\_

Location: \_\_\_\_\_

#	Time	Flow	Multiplier	Sample Volume
1				
2				
3				
4				
5				
6				
7				
8				

### Step-by-step Process for Completing NPDES DMR for Typical STP

1. Print or type month and year of report.
2. For the average monthly flow monitoring requirement, total daily flows and divide by days in the month.
3. For the daily maximum flow monitoring requirement, enter the highest daily flow measured that month.
4. Did flow exceed average monthly or maximum daily limits on DMR? Total the number of exceedances (N.E.) and report on the DMR under the N.E. column. Enter "0" if the values are equal or less than the permitted limits.
5. Type in flow measurement frequency, (continuous if a meter is used) and sample type (measured, estimate, or recorded if a chart is used).
6. Add the BOD<sub>5</sub> daily or weekly test results and divide the number of sample days in month to obtain monthly average. If one test was performed that month, enter result under "Other Units."
7. Enter the highest BOD<sub>5</sub> daily test result for your reported daily maximum. If one test was performed that month, enter the same result as the average.
8. Did BOD<sub>5</sub> exceed average monthly or maximum daily limits on DMR? Total the number of exceedances and report on the DMR under the N.E. column. Enter "0" if the values are equal or less than the permitted limits.
9. Enter measurement frequency and type of sample taken.
10. Convert BOD<sub>5</sub> mg/l to pounds per day.
 

.381	x	8.34	x	26.7	=	84.8 Lbs
.561	x	8.34	x	21.6	=	101.1 Lbs
1.66	x	8.34	x	20.5	=	283.8 Lbs
.455	x	8.34	x	9.3	=	<u>+35.3 Lbs</u>
505						÷ 4 = 126.25 Average Lbs
11. Select highest BOD-5 pounds and enter. 283.8 Lbs
12. Did BOD<sub>5</sub> exceed average monthly or maximum daily limits on DMR? Total the number of exceedances and report on the DMR under the N.E. column. Enter "0" if the values are equal or less than the permitted limits.
13. Add the TSS daily or weekly tests results and divide by the number of sample days in the month to obtain the monthly average. If one test was performed that month, enter result.
14. Enter the highest TSS daily test result for your reported daily maximum. If one test was performed that month, enter the same result as the average TSS.
15. Did TSS exceed average monthly or maximum daily limits on DMR? Total the number of exceedances and report on the DMR under the N.E. column. Enter "0" if the values are equal or less than the permitted limits.
9. Enter measurement frequency and type of sample taken.

16. Convert TSS mg/1 to pounds per day.
- $$\begin{array}{r} .381 \times 8.34 \times 12.3 = 39.1 \text{ Lbs} \\ .561 \times 8.34 \times 8.3 = 38.8 \text{ Lbs} \\ 1.66 \times 8.34 \times 61 = 844.5 \text{ Lbs} \\ .455 \times 8.34 \times 15.3 = \underline{+15.3 \text{ Lbs}} \\ 980.5 \div 4 = 245.1 \text{ Lbs Average Lbs} \end{array}$$
17. Select highest TSS pounds and enter. 844.5 Lbs
18. Did TSS exceed average monthly or maximum daily limits on DMR? Total the number of exceedances and report on the DMR under the N.E. column. Enter "0" if the values are equal or less than the permitted limits.
19. Add TKN daily or weekly test results and divide by the number of sample days in the month to obtain the monthly average. If one test was performed that month, enter result.
20. Enter the highest TKN daily test result for your reported daily maximum. If one test was performed that month, enter the same result as the average TKN.
21. Did TKN exceed average monthly or maximum daily limits on DMR? Total the number of exceedances and report on the DMR under the N.E. column. Enter "0" if the values are equal or less than the permitted limits.
9. Enter measurement frequency and type of sample taken.
22. Convert TKN mg/1 to pounds per day.
- $$\begin{array}{r} .381 \times 8.34 \times 8.7 = 27.6 \text{ Lbs} \\ .561 \times 8.34 \times 16 = 74.9 \text{ Lbs} \\ 1.66 \times 8.34 \times 14.6 = 202.1 \text{ Lbs} \\ .455 \times 8.34 \times 16.9 = \underline{+64.1 \text{ Lbs}} \\ 368.7 \div 4 = 92.2 \text{ Average Lbs} \end{array}$$
23. Select highest TKN pounds and enter. 202.1 Lbs
24. Did TKN exceed average monthly or maximum daily limits on DMR? Total the number of exceedances and report on the DMR under the N.E. column. Enter "0" if the values are equal or less than the permitted limits.
25. Enter lowest pH value on monthly DMR.
26. Enter highest pH value on monthly DMR.
27. If lowest pH was higher than minimum permitted value, enter "0" under the N.E. (number of exceedances) column. Did pH exceed the minimum or maximum limits on DMR? Total the number of exceedances and report on the DMR under the N.E. column. Enter "0" if the values are equal or less than the permitted limits.
9. Enter measurement frequency and type of sample taken.
28. Circle test procedure used for Fecal Coliform test.
29. Procedure for calculating geometric mean for Fecal Coliform.
- $$32 \times 110 \times 410 \times 120 = 173,184,000$$
- $$\sqrt[4]{173,184,000} = 114.7 \text{ Col/100 ml}$$
30. Select highest Fecal Coliform test result for the month, which is 410 colonies/100 ml, and enter under maximum daily.

31. Did the geometric mean exceed average monthly or maximum daily limits on DMR? Total the number of exceedances and report on the DMR under the N.E. column. Enter "0" if the values are equal or less than the permitted limits. Did Fecal Coliform exceed maximum daily limits on DMR? Total the number of exceedances and report on the DMR under the N.E. column. Enter "0" if the values are equal or less than the permitted limits.
32. Enter measurement frequency and type of sample taken.
33. Type or print name of mayor, chairman, or owner.
34. Title of principal (mayor, chairman, owner).
35. Date of report completed.
36. Name of authorized person filling out report and signature.
37. Title of authorized person filling out report.

STATE OF WEST VIRGINIA  
 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 DISCHARGE MONITORING REPORT

Final Limitations  
 Year Round

FACILITY NAME: Acme Sewage Treatment Plant CERTIFIED LABORATORY NAME: Universal Laboratory  
 LOCATION OF FACILITY: Somewhere, WV CERTIFIED LABORATORY ADDRESS: 601 Cubitainer St. Manhole, WV  
 PERMIT NO.: WV0999999 OUTLET NO.: 001  
 WASTELOAD FOR THE MONTH OF: March, 2003 (01) INDIVIDUAL PERFORMING ANALYSIS: John Smith

Parameter		Quantity			Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type	
		Avg Monthly	Max Daily	Units	Minimum	Avg Monthly	Max Daily						
Flow	N/A	N/A	N/A		N/A	0.562 (02)	1.66 (03)			(04)	Continuous	Measured (05)	
	N/A	N/A	N/A		N/A	0.800	N/A	N/A	MGD	0	Continuous	Measured	
BOD, 5-Day (20 Deg C)	N/A	126.25 (10)	283.8 (11)		(12)	N/A	20 (06)	27 (07)			(08)	1/week (09)	8 Hr Comp (09)
	N/A	347.8	695.6	Lbs/Day	0	N/A	30	60	N/A	mg/l	0	1/week	8 Hr Comp
Solids, Total Suspended	N/A	245.1 (16)	844.5 (17)		(18)	N/A	24 (13)	61 (14)			(15)	1/week (09)	8 Hr Comp (09)
	N/A	347.8	695.6	Lbs/Day	1	N/A	30	60	N/A	mg/l	1	1/week	8 Hr Comp
Nitrogen, Total Kheldahl (As N)	N/A	92.2 (22)	202.1 (23)		(24)	N/A	14 (19)	17 (20)			(21)	1/week (09)	8 Hr Comp (09)
	N/A	208.7	416.4	Lbs/Day	0	N/A	18	36	N/A	mg/l	0	1/week	8 Hr Comp
Coliform, Fecal General	MF (28)		MPN			N/A	115 (29)	410 (30)			(31)	1/week (09)	Grab (09)
	Circle Method Used					N/A	200	400	N/A	Cts/100 ml	1	1/week	Grab
pH						6.6 (25)	N/A	7.4 (26)			(27)	Daily (09)	Grab (09)
						6.0	N/A	9.0	N/A		0	Daily	Grab

\* CEL = Compliance Evaluation Level

Name of Principal Executive Officer <b>John Doe</b> (32)	certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed <b>April 10, 2003</b> (34)
Title of Officer <b>City Manager</b> (33)		Signature of Principal Executive Officer or Authorized Agent  (35) (36)

## **Instructions for completing the Sludge Management Report**

This report is required to be completed and submitted by all facilities generating or disposing sewage sludge. The report is to be completed monthly and must be submitted by the twentieth day of the month following the report period, e.g., March's report must be submitted by April 20<sup>th</sup>.

If the design flow of the wastewater plant is over 50,000 gpd, the Sludge Management Report must be submitted each month, even if no sludge was generated or disposed. If the design flow of the treatment plant is less than 50,000 gpd, it is not necessary to submit a report for a month when no sludge is generated or disposed during that month.

**The Sludge Management Report should not be stapled to the Discharge Monitoring Report if the two reports are mailed together.**

### Step-by-Step Instructions

1. Confirm facility name as it appears on the NPDES permit.
2. Confirm the design flow for the treatment plant. This is listed in the permit as the "Average Monthly Flow Limit."
3. Confirm the permit number for the NPDES discharge permit.
4. Confirm mailing address.
5. Confirm the calendar year of the month for which the report is being generated.
6. Major Facilities (Design flow >1 MGD) "quarterly", other enter "semi-annual."
7. Confirm the city for the mailing address.
8. Enter the zip code.
9. Enter the month for which the report is being generated.
10. Enter the month and year of the last sample taken for heavy metals.
11. Enter amount (dry tons) of sludge generated by the treatment plant during this month. "Generated" means sludge that has completed all treatment processes and is ready for storage, disposal, or reuse. Dry tons may be calculated by multiplying the actual tons of sludge by the percent solids.
12. Enter the amount (dry tons) of sludge generated so far this calendar year.
13. Enter the total gallons of septage received at the treatment plant during this month.
14. List the primary disposal method used for the month: "Land Application," "Landfill," "Incineration," "Septic Hauler," other treatment plant (specify), or "Compost Facility." If sludge was stored only during the report period and not disposed, enter "None."
15. If a secondary method of sludge disposal was used during the month, write it in here.
16. Enter the amount disposed by the method listed in space #14. Enter the amount in dry tons. If all the sludge was stored, enter a "0" or "None Disposed" in this blank.
17. Enter the amount disposed by the method listed in space #15. Enter the amount in dry tons.
18. Enter the name of the landfill or compost facility if these were used for disposal.
19. Average the percent solids sample results taken during the month and enter the value in this blank. At least one sample should be collected each month, provided that sludge is disposed during that month.



20. Enter the number of percent solids samples taken during the month.
21. Enter the number of loads of sewage sludge containing less than 20% solids which was disposed in a landfill.
22. The “Pathogen Reduction” section applies only to land application of sewage sludge. Mark this statement if no sludge was land applied, and then skip to space #29.
23. Mark this statement if the pathogen reduction requirement was met by monitoring the Fecal Coliform level in the sewage sludge.
  - 23A. Enter the geometric mean of the last seven samples taken for Fecal Coliform.
  - 23B. Enter the value of the Fecal Coliform sample collected during this month.
  - 23C. Major sewage treatment plants using this method must sample twice per month. If you sampled twice during the month, enter the second value in this blank. If only one sample was taken, enter a “N/A.”
24. Mark this statement if the pathogen reduction requirement was met by lime addition.
  - 24A. For the samples taken two hours after the addition of the lime, enter the range of pH values (i.e., minimum and maximum).
25. Mark this statement if the pathogen reduction requirement was met by anaerobic digestion.
  - 25A. Enter the average detention time measured in days in the digester for this month. This may be calculated by dividing the average daily sludge flow (gpd) out of the digester by the working volume of the digester.
  - 25B. Enter the average digester temperature for this month.
  - 25C. Enter the range of temperatures recorded for the digester during this month.
26. Mark this statement if the pathogen reduction requirement was met by aerobic digestion.
  - 26A. Enter the average detention time measured in days in the digester for this month. This may be calculated by dividing the average daily sludge flow (gpd) out of the digester by the working volume of the digester.
  - 26B. Enter the average digester temperature for this month.
  - 26C. Enter the range of temperatures recorded for the digester during this month.
27. Mark this statement if the pathogen reduction requirement was met by a method not listed above. Provide a detailed explanation of the procedure used to meet the requirement.
28. Enter the number of loads of sewage sludge land applied during the month that did not first fully meet the pathogen reduction requirements. For example, one load of limed sludge may have had a pH of 11.8 after two hours but was land applied anyway. Enter “0” if all sludge land applied during this month met the pathogen reduction requirements of 40 CFR Part 503.
29. The “Vector Attraction Reduction” section applies only to land application of sewage sludge. Mark this statement if no sludge was land applied.
30. Mark this statement if the vector attraction reduction requirement was met by reducing the volatile solids content in the sewage sludge by at least 38%.
  - 30A. Enter the month that the volatile solids samples were taken. Note that if the samples were not taken during this month, you must maintain records at the plant that demonstrate “similar or better operating conditions” were maintain in the plant’s sludge disposal units for the months when no samples were taken. You must verify volatile solids reduction in the sludge by sampling the volatile solids content in the sludge at least once per six months (quarterly for major facilities).

- 30B. Enter the measured volatile solids reduction for the month entered in #30A.
31. Mark this statement if the vector attraction reduction requirement was met by sampling the specific oxygen uptake rate (SOUR) in the sludge.
- 31A. Enter the month that the SOUR samples were taken. Note that if the samples were not taken during this month, you must maintain records at the plant that demonstrate “similar or better operating conditions” were maintained in the plant’s sludge disposal units for the months when no samples were taken. You must verify SOUR results in the sludge by sampling the sludge at least once per six months (quarterly for major facilities).
- 31B. Enter the average measured SOUR value for the month entered in #31A.
32. Mark this statement if the vector attraction reduction requirement was met by lime addition.
- 32A. Enter the range of pH values (i.e., minimum and maximum) for the samples taken two hours after the addition of the lime.
- 32B. Enter the range of pH values (i.e., minimum and maximum) for the samples taken twenty-four hours after the addition of the lime.
33. Mark this statement if the vector attraction reduction requirement was met by a method not listed above. Provide a detailed explanation of the procedure used to meet the requirement.
34. Enter the number of loads of sewage sludge land applied during the month that did not first fully meet the vector attraction reduction requirements. For example, one load of limed sludge may have had a pH of 11.3 after twenty-four hours but was land applied anyway. Enter “0” if all sludge land applied during this month met the pathogen reduction requirements of 40 CFR Part 503.
- 35-38. Enter the name, title, and signature of the responsible official, or the authorized agent.
39. Provide any additional comments or explanations that may be relevant to this month’s report.

## SEWAGE SLUDGE MANAGEMENT REPORT

FACILITY NAME: 1 \_\_\_\_\_ DESIGN FLOW: 2 \_\_\_\_\_ PERMIT NUMBER: 3 \_\_\_\_\_

ADDRESS: 4 \_\_\_\_\_ YEAR: 5 \_\_\_\_\_ MONITORING FREQUENCY: 6 \_\_\_\_\_

CITY: 7 \_\_\_\_\_ ZIP: 8 \_\_\_\_\_ MONTH: 9 \_\_\_\_\_ LAST SAMPLE DATE: 10 \_\_\_\_\_

Total Sludge Generated this Report Period: (Dry Tons) 11 \_\_\_\_\_ Disposal Method: 14 \_\_\_\_\_ 15 \_\_\_\_\_

Sludge Generated this Year to Date: (Dry Tons) 12 \_\_\_\_\_ Amount Disposed: (Dry Tons) 16 \_\_\_\_\_ 17 \_\_\_\_\_

Amount of Domestic Septage Received: (Gallons) 13 \_\_\_\_\_ Name of Landfill or Compost Facility: 18 \_\_\_\_\_

**Percent Solids:** Average: 19 \_\_\_\_\_ Measurement Frequency: 20 \_\_\_\_\_ Number of Loads Landfilled With Less Than 20 % Solids: 21 \_\_\_\_\_

**Pathogen Reduction Method:** 22 ف Not Applicable. No land application of sewage sludge.

23 ف Fecal Coliform Monitoring: Geometric mean of last seven samples is 23A \_\_\_\_\_ col/dry gram.  
24 ف Sample results for this report period were \_\_\_\_\_ 23B \_\_\_\_\_ col/dry gram and \_\_\_\_\_ 23C \_\_\_\_\_ col/dry gram.  
25 ف Lime Addition: pH of sample two hours after lime addition: Range 24A \_\_\_\_\_  
 \_\_\_\_\_ (syad) :doirep troper siht rof emit noitneted egarevA :noitseid 25A \_\_\_\_\_  
 Digester Temperature: Average 25B \_\_\_\_\_ Range 25C \_\_\_\_\_  
26 ف Aerobic Digestion: Average detention time for this report period: (days) 26A \_\_\_\_\_  
 Digester Temperature: Average 26B \_\_\_\_\_ Range 26C \_\_\_\_\_  
27 ف Other: (Provide Description) \_\_\_\_\_

**NE: Number of loads land applied which did not fully meet pathogen reduction requirements: 28**

**Vector Attraction Reduction Method:** 29 ف Not Applicable. No land application of sewage sludge.

30 ف 38 % Volatile Solids Reduction: Average volatile solids reduction for the month of 30A \_\_\_\_\_ was 30B \_\_\_\_\_ percent.  
31 ف SOUR: The average Specific Oxygen Uptake rate for the month of 31A \_\_\_\_\_ was 31B \_\_\_\_\_ mg O<sub>2</sub>/hour/dry gram.  
32 ف Lime Addition: pH of sample two hours after lime addition: Range 32A \_\_\_\_\_  
 pH of sample 24 hours after lime addition: Range 32B \_\_\_\_\_  
33 ف Other (Provide description) \_\_\_\_\_

**NE: Number of loads land applied which did not fully meet vector attraction requirements: 34**

*I certify under penalty of law that the management practices, vector attraction reduction requirements, and the pathogen reduction requirements of Federal Regulation 40 CFR Part 503 and State Regulation Title 33, Series 2 have been met for all sewage sludge land applied during this reporting period. This determination has been made under my supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate information used to determine these requirements have been met. I also certify that this document and all the attachments were prepared under my direct supervision, and that the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are penalties for false certification including the possibility of fine and imprisonment.*

**Official:** 35 \_\_\_\_\_ **Title:** 37 \_\_\_\_\_

**Signature:** 36 \_\_\_\_\_ **Date:** 38 \_\_\_\_\_

**Additional Comments or Explanations:** 39 \_\_\_\_\_

# **Sewage Sludge Monitoring Report**

**For**

**MAJOR FACILITIES (1<sup>+</sup> MGD)**

**Which**

**LAND APPLY**

**Sewage Sludge**

STATE OF WEST VIRGINIA  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
SEWAGE SLUDGE MONITORING REPORT

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01 \_\_\_\_\_  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity			Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
				Units	N.E.							
74055 (ML-+) RF-B Coliform, Fecal Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	col/gr		1/quarter	Grab
00400 (ML-+) RF-B pH Year Round	Reported											
	Permit Limits	N/A	N/A		Rpt Only Min.	N/A	Rpt Only Max.	N/A	S.U.		1/quarter	Grab
61521 (ML-+) RF-B Arsenic, Sludge Tot. Dry Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	20 Max.	N/A	mg/kg		1/quarter	1/wk Comp
78476 (ML-+) RF-B Cadmium, Sludge, Tot Dry Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	39 Max.	N/A	mg/kg		1/quarter	1/wk Comp
78473 (ML-+) RF-B Chromium, Dry Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	1000 Max.	N/A	mg/kg		1/quarter	1/wk Comp
78475 (ML-+) RF-B Copper, Sludge, Tot. Dry Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	1500 Max.	N/A	mg/kg		1/quarter	1/wk Comp
78468 (ML-+) RF-B Lead, Dry. Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	250 Max.	N/A	mg/kg		1/quarter	1/wk Comp
78471 (ML-+) RF-B Mercury, Dry Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	10 Max.	N/A	mg/kg		1/quarter	1/wk Comp

\* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed	
Title of Officer		Signature of Principal Executive Officer or Authorized Agent	

STATE OF WEST VIRGINIA  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
SEWAGE SLUDGE MONITORING REPORT

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01 \_\_\_\_\_  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type	
				Units	N.E.				CEL*	Units	N.E.			
78465 (ML+) RF-B	Reported													
Molybdenum, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	18 Max.	N/A	mg/kg		1/quarter	1/wk Comp	
Year Round														
78469 (ML+) RF-B	Reported													
Nickel, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	200 Max.	N/A	mg/kg		1/quarter	1/wk Comp	
Year Round														
49031 (ML+) RF-B	Reported													
Selenium, Sludge, Tot. Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	36 Max.	N/A	mg/kg		1/quarter	1/wk Comp	
Year Round														
78467 (ML+) RF-B	Reported													
Zinc, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	2800 Max.	N/A	mg/kg		1/quarter	1/wk Comp	
Year Round														
00916 (ML+) RF-B	Reported													
Calcium, Total (as Ca)	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp	
Year Round														
61553 (ML+) RF-B	Reported													
Solids, Total Sludge Percent	Permit Limits	N/A	N/A			Rpt Only Min.	Rpt Only Avg.	Rpt Only Max.	N/A	Percent		1/quarter	1/wk Comp	
Year Round														
78472 (ML+) RF-B	Reported													
Potassium, Sludge Tot. Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp	
Year Round														
78478 (ML+) RF-B	Reported													
Phosphorus, Sludge, Tot, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp	
Year Round														

\* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

STATE OF WEST VIRGINIA  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
SEWAGE SLUDGE MONITORING REPORT

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity			Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
				Units	N.E.							
82294 (ML+) RF-B	Reported											
Nitrogen, Ammonia Tot. Dry Wt	Permit Limits	N/A	N/A				N/A	mg/kg			1/quarter	1/wk Comp
Year Round												
78470 (ML+) RF-B	Reported											
Nitrogen, Sludge Tot. Dry Wt	Permit Limits	N/A	N/A				N/A	mg/kg			1/quarter	1/wk Comp
Year Round												
51020 (ML+) RF-B	Reported											
Organic Nitrogen	Permit Limits	N/A	N/A				N/A	mg/kg			1/quarter	1/wk Comp
Year Round												
00927 (ML+) RF-B	Reported											
Magnesium, Tot (as Mg)	Permit Limits	N/A	N/A				N/A	mg/kg			1/quarter	1/wk Comp
Year Round												

\* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed	
Title of Officer		Signature of Principal Executive Officer or Authorized Agent	

# **Sewage Sludge Monitoring Report**

**For**

**MINOR FACILITIES (<1 MGD)**

**Which**

**LAND APPLY**

**Sewage Sludge**



STATE OF WEST VIRGINIA  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
SEWAGE SLUDGE MONITORING REPORT

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type	
				Units	N.E.				CEL*	Units	N.E.			
74055 (ML+) RF-C	Reported													
Coliform, Fecal	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	col/gr		1/6 months	Grab	
Year Round														
00400 (ML+) RF-C	Reported													
pH	Permit Limits	N/A	N/A			Rpt Only Min.	N/A	Rpt Only Max.	N/A	S.U.		1/6 months	Grab	
Year Round														
61521 (ML+) RF-C	Reported													
Arsenic, Sludge Tot. Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	20 Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
78476 (ML+) RF-C	Reported													
Cadmium, Sludge, Tot Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	39 Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
78473 (ML+) RF-C	Reported													
Chromium, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	1000 Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
78475 (ML+) RF-C	Reported													
Copper, Sludge, Tot, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	1500 Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
78468 (ML+) RF-C	Reported													
Lead, Dry. Wt.	Permit Limits	N/A	N/A			N/A	N/A	250 Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
78471 (ML+) RF-C	Reported													
Mercury, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	10 Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														

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Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

STATE OF WEST VIRGINIA  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
SEWAGE SLUDGE MONITORING REPORT

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01 \_\_\_\_\_  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity			Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
				Units	N.E.							
78465 (ML+) RF-C	Reported											
Molybdenum, Dry Wt.	Permit Limits	N/A	N/A		N/A	N/A	18 Max.	N/A	mg/kg		1/6 months	1/wk Comp
78469 (ML+) RF-C	Reported											
Nickel, Dry Wt.	Permit Limits	N/A	N/A		N/A	N/A	200 Max.	N/A	mg/kg		1/6 months	1/wk Comp
49031 (ML+) RF-C	Reported											
Selenium, Sludge, Tot. Dry Wt.	Permit Limits	N/A	N/A		N/A	N/A	36 Max.	N/A	mg/kg		1/6 months	1/wk Comp
78467 (ML+) RF-C	Reported											
Zinc, Dry Wt.	Permit Limits	N/A	N/A		N/A	N/A	2800 Max.	N/A	mg/kg		1/6 months	1/wk Comp
61553 (ML+) RF-C	Reported											
Solids, Total Sludge Percent	Permit Limits	N/A	N/A		Rpt Only Min.	Rpt Only Avg.	Rpt Only Max.	N/A	Percent		1/6 months	1/wk Comp
00924 (ML+) RF-C	Reported											
Magnesium, Total	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
78472 (ML+) RF-C	Reported											
Potassium, Sludge Tot. Dry Wt.	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
78478 (ML+) RF-C	Reported											
Phosphorus, Sludge, Tot. Dry Wt.	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp

\* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed	<input type="text"/>
Title of Officer		Signature of Principal Executive Officer or Authorized Agent	<input type="text"/>

STATE OF WEST VIRGINIA  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
SEWAGE SLUDGE MONITORING REPORT

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01 \_\_\_\_\_  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity			Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
				Units	N.E.							
00917 (ML+) RF-C	Reported											
Calcium	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
Year Round												
82294 (ML+) RF-C	Reported											
Nitrogen, Ammonia Tot. Dry Wt.	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
Year Round												
78470 (ML+) RF-C	Reported											
Nitrogen, Sludge Tot. Dry Wt.	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
Year Round												
51020 (ML+) RF-C	Reported											
Organic Nitrogen	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
Year Round												
								N/A				
								N/A				
								N/A				
								N/A				

\* CEL = Compliance Evaluation Level

Name of Principal Executive Officer _____ _____	certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed _____ Signature of Principal Executive Officer or Authorized Agent _____
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# **Sewage Sludge Monitoring Report**

**For**

**MAJOR FACILITIES (1<sup>+</sup> MGD)**

**Which**

**LANDFILL**

**Sewage Sludge**

STATE OF WEST VIRGINIA  
 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 SEWAGE SLUDGE MONITORING REPORT

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity				Other Units				Measurement Frequency	Sample Type		
				Units	N.E.			Units	N.E.				
00400 (ML+) RF-B	Reported												
pH	Permit Limits	N/A	N/A			Rpt Only Min.	N/A	Rpt Only Max.	N/A	S.U.		1/quarter	Grab
Year Round													
61521 (ML+) RF-B	Reported												
Arsenic, Sludge Tot. Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
Year Round													
78476 (ML+) RF-B	Reported												
Cadmium, Sludge, Tot. Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
Year Round													
78473 (ML+) RF-B	Reported												
Chromium, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
Year Round													
78475 (ML+) RF-B	Reported												
Copper, Sludge, Tot. Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
Year Round													
78468 (ML+) RF-B	Reported												
Lead, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
Year Round													
78471 (ML+) RF-B	Reported												
Mercury, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
Year Round													
78465 (ML+) RF-B	Reported												
Molybdenum, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
Year Round													

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Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

STATE OF WEST VIRGINIA  
 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 SEWAGE SLUDGE MONITORING REPORT

Final Limitations  
 Year Round

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01 \_\_\_\_\_  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity			Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
				Units	N.E.							
78469 (ML+) RF-B Nickel, Dry Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
49031 (ML+) RF-B Selenium, Sludge, Tot. Dry Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
78467 (ML+) RF-B Zinc, Dry Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
00916 (ML+) RF-B Calcium, Total (as Ca) Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
61553 (ML+) RF-B Solids, Total Sludge Percent Year Round	Reported											
	Permit Limits	N/A	N/A		Rpt Only Min.	Rpt Only Avg.	Rpt Only Max.	N/A	Percent		1/quarter	1/wk Comp
78472 (ML+) RF-B Potassium, Sludge Tot. Dry Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
78478 (ML+) RF-B Phosphorus, Sludge, Tot. Dry Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
82294 (ML+) RF-B Nitrogen, Ammonia Tot. Dry Wt. Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp

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Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

STATE OF WEST VIRGINIA  
 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 SEWAGE SLUDGE MONITORING REPORT

Final Limitations  
 Year Round

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity			Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
				Units	N.E.							
78470 (ML+) RF-B Nitrogen, Sludge Tot Dry Wt Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
51020 (ML+) RF-B Organic Nitrogen Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
00927 (ML+) RF-B Magnesium Tot (as Mg) Year Round	Reported											
	Permit Limits	N/A	N/A		N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/quarter	1/wk Comp
								N/A				
								N/A				
								N/A				
								N/A				
								N/A				

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Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

# **Sewage Sludge Monitoring Report**

**For**

**MINOR FACILITIES (<1 MGD)**

**Which**

**LANDFILL**

**Sewage Sludge**



STATE OF WEST VIRGINIA  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
SEWAGE SLUDGE MONITORING REPORT

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01 \_\_\_\_\_  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity				Other Units					Measurement Frequency	Sample Type	
				Units	N.E.				CEL*	Units			N.E.
00400 (ML-+) RF-C	Reported												
pH	Permit Limits	N/A	N/A			Rpt Only Min.	N/A	Rpt Only Max.	N/A	S.U.		1/6 months	Grab
61521 (ML-+) RF-C	Reported												
Arsenic, Sludge Tot. Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
78476 (ML-+) RF-C	Reported												
Cadmium, Sludge, Tot Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
78473 (ML-+) RF-C	Reported												
Chromium, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
78475 (ML-+) RF-C	Reported												
Copper, Sludge, Tot, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
78468 (ML-+) RF-C	Reported												
Lead, Dry. Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
78471 (ML-+) RF-C	Reported												
Mercury, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp
78465 (ML-+) RF-C	Reported												
Molybdenum, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp

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Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed	<input type="text"/>
Title of Officer		Signature of Principal Executive Officer or Authorized Agent	<input type="text"/>

STATE OF WEST VIRGINIA  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
SEWAGE SLUDGE MONITORING REPORT

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01 \_\_\_\_\_  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type	
				Units	N.E.				CEL*	Units	N.E.			
78469 (ML+) RF-C	Reported													
Nickel, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
49031 (ML+) RF-C	Reported													
Selenium, Sludge, Tot. Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
78467 (ML+) RF-C	Reported													
Zinc, Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
00916 (ML+) RF-C	Reported													
Calcium, Total (as Ca)	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
61553 (ML+) RF-C	Reported													
Solids, Total Sludge Percent	Permit Limits	N/A	N/A			Rpt Only Min.	Rpt Only Avg.	Rpt Only Max.	N/A	Percent		1/6 months	1/wk Comp	
Year Round														
78472 (ML+) RF-C	Reported													
Potassium, Sludge Tot. Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
78478 (ML+) RF-C	Reported													
Phosphorus, Sludge, Tot. Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
82294 (ML+) RF-C	Reported													
Nitrogen, Ammonia Tot. Dry Wt.	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														

\* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed	<input type="text"/>
Title of Officer		Signature of Principal Executive Officer or Authorized Agent	<input type="text"/>

STATE OF WEST VIRGINIA  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
SEWAGE SLUDGE MONITORING REPORT

FACILITY NAME: \_\_\_\_\_ CERTIFIED LABORATORY NAME: \_\_\_\_\_  
 LOCATION OF FACILITY: \_\_\_\_\_ CERTIFIED LABORATORY ADDRESS: \_\_\_\_\_  
 PERMIT NO.: \_\_\_\_\_ OUTLET NO.: S01 \_\_\_\_\_  
 RESULTS FOR THE MONTH OF: \_\_\_\_\_ INDIVIDUAL PERFORMING ANALYSIS: \_\_\_\_\_

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type	
				Units	N.E.				CEL*	Units	N.E.			
78470 (ML-+) RF-C	Reported													
Nitrogen, Sludge Tot. Dry Wt	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
51020 (ML-+) RF-C	Reported													
Organic Nitrogen	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
00927 (ML-+) RF-C	Reported													
Magnesium, Tot (as Mg)	Permit Limits	N/A	N/A			N/A	N/A	Rpt Only Max.	N/A	mg/kg		1/6 months	1/wk Comp	
Year Round														
									N/A					
									N/A					
									N/A					
									N/A					
									N/A					

\* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

## **REPORTING REQUIREMENTS**

The permittee shall report any noncompliance which may endanger health or the environment immediately after becoming aware of the circumstances by using the Agency's designated spill alert telephone number. A written submission shall be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

The following shall also be reported immediately:

1. Any unanticipated bypass which exceeds any effluent limitation in the permit;
2. Any upset which exceeds any effluent limitation in the permit; and
3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to reported immediately. This list shall include any toxic pollutant or hazardous substance, or any pollutant specifically identified as the method to control a toxic pollutant or hazardous substance.

The Director may waive the written report on a case-by-case basis if the oral report has been received in accordance with above.

Compliance with the above reporting requirements shall not relieve a person of compliance with Title 47, Series 11, Section 2.

Following is a copy of the West Virginia Spill Alert System for use in complying with Title 47, Series 11, Section 2 of the Legislative rules as they pertain to the reporting of spills and accidental discharges.

### **EMERGENCY RESPONSE SPILL ALERT SYSTEM WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

#### **REQUIREMENTS:**

Title 47, Series 11, Section 2 of the West Virginia Legislative Rules, Environmental Protection, Water Resources – Waste Management, Effective July 1, 1994.

#### **RESPONSIBILITY FOR REPORTING:**

Each and every person who may cause or be responsible for any spill or accidental discharge of pollutants into the waters of the State shall give immediate notification to the Office of Water Resources' Emergency Notification Number, **1-800-642-3074**. Such notification shall set forth insofar as possible and as soon thereafter as practical the time and place of such spill or discharge, type or types and quantity or quantities of the material or materials therein, action or actions taken to stop such spill or discharge and minimize the pollution effect thereof, the measure or measures taken or to be taken in order to prevent a recurrence of any such spill or

discharge and such additional information as may be requested by the Office of Water Resources. This also applies to spills to the waters of the State resulting from accidents to common carriers by highway, rail and water.

It shall be the responsibility of each industrial establishment or other entity discharging directly to a stream to have available the following information pertaining to those substances that are employed or handled in its operation in sufficiently large amounts as to constitute a hazard in case of an accidental spill or discharge into a public stream.

- 1) Potential toxicity in water to man, animals and aquatic life;
- 2) Details on analytical procedures for the quantitative estimation of such substances in water and
- 3) Suggestion on safeguards or other precautionary measures to nullify the toxic effects of a substance once it has gotten into a stream.

Failure to furnish such information as required by Section 14, Article 11, Chapter 22, Code of West Virginia may be punishable under Section 24, Article 11, Chapter 22, and/or Section 22, Article 11, Chapter 22, Code of West Virginia.

It shall be the responsibility of any person who causes or contributes in any way to the spill or accidental discharge of any pollutant or pollutants into State waters to immediately take any and all measures necessary to contain such spill or discharge. It shall further be the responsibility of such person to take any and all measures necessary to clean-up, remove and otherwise render such spill or discharge harmless to the waters of the State.

When the Director determines it necessary for the effective containment and abatement of spills and accidental discharges, the Director may require the person or persons responsible for such spill or discharge to monitor affected waters in a manner prescribed by the Director until the possibility of any adverse effect on the waters of the State no longer exists.

#### **VOLUNTARY REPORTING BY LAW OFFICERS, U. S. COASTGUARD, LOCK MASTERS AND OTHERS:**

In cases involving river and highway accidents where the responsible party may or may not be available to report the incident, law officers, U. S. Coast Guard, Lock Masters and other interested person(s) should make the report.

#### **WHO TO CONTACT:**

Notify the following number: **1-800-642-3074**

#### **INFORMATION NEEDED:**

- Source of spill or discharge
- Location of incident
- Time of incident
- Material spilled or discharged
- Amount spilled or discharged
- Toxicity of material spilled or discharged
- Personnel at the scene
- Actions initiated
- Shipper/Manufacturer identification
- Railcar/Truck identification number
- Container type

## **STATEMENT OF POLICY REGARDING OPPORTUNITY TO USE AND PARTICIPATE IN PROGRAMS**

It is the policy of the Department of Environmental Protection to provide its facilities, accommodations, services and program to all persons without regard to sex, race, color, age, religion, national origin, or handicap. Proper licenses/registration and compliance with official rules and regulations are the only sources of restrictions for facility use or program participation. Complaints should be directed to: Department of Environmental Protection, 601 57<sup>th</sup> Street SE, Charleston, WV 25304.

The Department of Environmental Protection is an equal opportunity employer.